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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,668	06/27/2001	Srinivas Tadepalli	STL9760	6951

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EXAMINER	
RENNER, CRAIG A	
ART UNIT	**PAPER NUMBER**
2652	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,668	TADEPALLI ET AL.	
	Examiner	Art Unit	
	Craig A. Renner	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,8-17 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8,9,12-17 and 19-24* is/are rejected.

7)☒ Claim(s) *10 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 31 January 2005. These drawings are accepted.

Specification

2. The disclosure is objected to because of the following informalities:

a. In line 2 of claim 3, "a plurality of the data storage discs" should be changed to --a plurality of data storage discs-- for better clarity.

b. In lines 1-2 of claim 19, "wherein the shroud upstream" should be changed to --wherein the shroud is upstream-- for better clarity.

c. In line 2 of claim 19, "the airstream strip" should be changed to --the airstream stripper-- in order to more clearly refer back to that set forth in line 9 of independent claim 15.

d. In line 2 of claim 24, "the airstream strip" should be changed to --the airstream stripper vane-- in order to more clearly refer back to that set forth in line 2 of base claim 21.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15-17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In line 14 of claim 15, "the data storage disc outer edge " is indefinite because it lacks clear and/or positive antecedent basis.

b. In line 17 of claim 15, "the data storage disc" is indefinite because it lacks clear and/or positive antecedent basis.

c. In line 2 of claim 19, it is indefinite as to whether the "fin" is the same as that set forth in line 15 of independent claim 15, or if this "fin" is in addition to that set forth in line 15 of independent claim 15.

d. Claims 16-17 inherit the indefiniteness associated with independent claim 15 and stand rejected as well.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Westwood (US 4,647,997).

Westwood teaches a disc drive comprising a base (12) supporting a spinning data storage disc (18) operatively interfacing with an actuator (includes 24) in a data reading and writing relationship; and means (includes 64, for instance, in at least an equivalent structural sense) for limiting the aerodynamic excitation resulting from air currents generated by the spinning disc [as per claim 20]; wherein the means for limiting aerodynamic excitation comprises an airstream stripper vane (64) extending substantially radially from an outer radial portion to an inner radial portion of the disc downstream of the actuator and disc interface with respect to the direction of the air currents (as shown in FIG. 1, for instance) [as per claim 21]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 1, for instance) [as per claim 22]; and wherein the means for limiting aerodynamic excitation comprises a shroud defining a perimeter surface substantially transverse to the disc outer edge and intersecting the airstream stripper vane (as shown in FIG. 1, for instance) [as per claim 23].

7. Claims 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashizume et al. (US 6,449,119).

Hashizume teaches a disc drive (1) comprising a base (2) supporting a spinning data storage disc (3) operatively interfacing with an actuator (5) in a data reading and writing relationship; and means (includes 6, for instance, in at least an equivalent structural sense) for limiting the aerodynamic excitation resulting from air currents generated by the spinning disc [as per claim 20]; wherein the means for limiting aerodynamic excitation comprises an airstream stripper vane (6) extending substantially radially from an outer radial portion to an inner radial portion of the disc downstream of the actuator and disc interface with respect to the direction of the air currents (as shown in FIG. 1A, for instance) [as per claim 21]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 1A, for instance) [as per claim 22]; and wherein the means for limiting aerodynamic excitation comprises a shroud defining a perimeter surface substantially transverse to the disc outer edge and intersecting the airstream stripper vane (as shown in FIG. 1A, for instance) [as per claim 23].

8. Claims 1-4, 8-9, 13-15, and 19-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Schirle (US 5,898,545).

With respect to claims 1-4, 8-9, and 13-14, Schirle teaches an airstream conditioning apparatus comprising an airstream stripper (includes 33) supportable downstream of an actuator (22) with respect to the direction of air currents produced by

a rotating data storage disc (11); and a frame (includes 40) supportable by an enclosure (includes 20) of a data storage device (10), the frame further comprising a shroud (40) upstream of the airstream stripper defining a perimeter surface substantially transverse to the data storage disc outer edge (as shown in FIG. 1, for instance) and intersecting the airstream stripper (as shown in FIG. 2, for instance), wherein the shroud comprises a fin (36) defining a planar surface extending from a perimeter surface and substantially coextensive with the data storage disc (lines 49-53 in column 3, for instance) [as per claim 1]; wherein the airstream stripper comprises a vane (33) extending substantially radially from an outer radial portion to an inner radial portion of the data disc (as shown in FIG. 3, for instance) [as per claim 2]; wherein the data storage device supports a plurality of data storage discs (each 11) stacked with spacers between adjacent data storage discs and commonly rotated as a disc stack (as shown in FIG. 1, for instance), wherein the airstream stripper comprises a plurality of vanes (each 33) extending substantially radially from an outer radial portion to an inner radial portion of the data storage discs of the disc stack and between adjacent data storage discs (as shown in FIG. 3, for instance) [as per claim 3]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 3, for instance) [as per claim 4]; wherein the data storage disc comprises opposing planar surfaces, each supporting a data storage surface, and wherein the fin comprises opposing planar surfaces substantially coextensive with the respective data storage surface (lines 49-53 in column 3, for instance) [as per claim 8]; wherein the fin comprises an edge (37) substantially transverse to the planar surface and closely matingly parallel with the data

disc outer edge (lines 49-53 in column 3, for instance) [as per claim 9]; wherein the perimeter surface is separated from the data storage disc edge a first distance at a first end (adjacent 33) of the perimeter surface adjacent the airstream stripper, and wherein the perimeter surface is separated from the data disc edge a second distance at a second end (adjacent 25) of the perimeter surface, the second distance being greater than the first distance (as shown in FIG. 1, for instance) [as per claim 13]; wherein the data storage device comprises a disc drive assembly (as shown in FIG. 1, for instance) [as per claim 14].

With respect to claims 15 and 19, Schirle teaches a disc drive (10) comprising an enclosure (includes 20); a disc stack (11) rotated by a motor (lines 28-32 in column 2, for instance); an actuator (22) having a distal end moving a data transfer element (29) in a data transfer relationship with a data storage surface of the disc stack (as shown in FIG. 3, for instance); and an airstream conditioning apparatus supported by the enclosure comprising an airstream stripper (includes 33) downstream of the actuator with respect to the direction of air currents generated by the rotating disc stack (as shown in FIG. 1, for instance); and a frame (includes 40) supportable by the enclosure, the frame further comprising a shroud (40) defining a perimeter surface substantially transverse to the data storage disc outer edge (as shown in FIG. 1, for instance) and intersecting the airstream stripper (as shown in FIG. 2, for instance), wherein the shroud comprises a fin (36) defining a planar surface extending from a perimeter surface and substantially coextensive with the data storage disc (lines 49-53 in column 3, for instance) [as per claim 15]; wherein the shroud is upstream of the airstream stripper (as

shown in FIG. 1, for instance) and comprises a fin (36) extending from the perimeter surface substantially parallel with the disc stack (lines 49-53 in column 3, for instance) [as per claim 19].

With respect to claims 20-24, Schirle teaches a disc drive (10) comprising a base (20) supporting a spinning data storage disc (11) operatively interfacing with an actuator (22) in a data reading and writing relationship (as shown in FIG. 3, for instance); and means (includes 33, 36 and 40, for instance, in at least an equivalent structural sense) for limiting the aerodynamic excitation resulting from air currents generated by the spinning disc (lines 53-56 in column 3, for instance) [as per claim 20]; wherein the means for limiting aerodynamic excitation comprises an airstream stripper vane (33) extending substantially radially from an outer radial portion to an inner radial portion of the disc downstream of the actuator and disc interface with respect to the direction of the air currents (as shown in FIG. 3, for instance) [as per claim 21]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 3, for instance) [as per claim 22]; wherein the means for limiting aerodynamic excitation comprises a shroud (40) defining a perimeter surface substantially transverse to the disc outer edge (as shown in FIG. 1, for instance) and intersecting the airstream stripper vane (as shown in FIG. 2, for instance) [as per claim 23]; and wherein the shroud is upstream of the airstream stripper vane (as shown in FIG. 1, for instance) and comprises a fin (36) extending from the perimeter surface substantially parallel with the disc (lines 49-53 in column 3, for instance) [as per claim 24].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume et al. (US 6,449,119) in view of Izumi et al. (US 6,487,038).

Hashizume teaches a disc drive comprising an enclosure (2); a disc stack (includes 3) rotated by a motor; an actuator (5) having a distal end moving a data transfer element (4) in a data transfer relationship with a data storage surface of the disc stack; and an airstream conditioning apparatus supported by the enclosure comprising an airstream stripper (includes 6) downstream of the actuator with respect to the direction of air currents generated by the rotating disc stack (as shown in FIG. 1A, for instance); and a frame (includes shroud portion of 2) supportable by the enclosure, the frame further comprising a shroud (as shown in FIG. 3B, for instance) defining a perimeter surface substantially transverse to the data storage disc outer edge and intersecting the airstream stripper (as shown in FIG. 1A, for instance) [as per claim 15]; wherein the airstream stripper comprises a vane (6) extending substantially radially from an outer radial portion to an inner radial portion of the disc stack and adjacent the data storage surface (as shown in FIGS. 1A and 1B, for instance) [as per claim 16]; wherein the vane is disposed substantially transverse to the actuator distal end (as shown in

FIG. 1A, for instance) [as per claim 17]. Hashizume, however, remains silent as to "wherein the shroud comprises a fin defining a planar surface extending from a perimeter surface and substantially coextensive with the data storage disc."

Izumi teaches a shroud (18) comprising a fin (between each 21) defining a planar surface extending from a perimeter surface and substantially coextensive with a data storage disc (as shown in FIG. 2, for instance) in the same field of endeavor for the purpose of suppressing flutter. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the shroud of Hashizume comprise a fin defining a planar surface extending from a perimeter surface and substantially coextensive with the data storage disc as taught by Izumi. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the shroud of Hashizume comprise a fin defining a planar surface extending from a perimeter surface and substantially coextensive with the data storage disc as taught by Izumi since such suppresses flutter.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schirle (US 5,898,545) in view of Tadepalli et al. (US 2002/0008934).

Schirle teaches the apparatus as detailed in paragraph 8, supra. Schirle, however, remains silent as to "wherein the frame comprises a bias member compressingly engageable with the enclosure providing an attachment force on the frame within the enclosure."

Tadepalli teaches a frame (156) comprising a bias member (182) compressingly engageable with an enclosure (includes 104) providing an attachment force on the frame within the enclosure in the same field of endeavor for the purpose of eliminating the need for separate fasteners (paragraph [0029], for instance). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the frame of Schirle comprise a bias member compressingly engageable with the enclosure providing an attachment force on the frame within the enclosure as taught by Tadepalli. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the frame of Schirle comprise a bias member compressingly engageable with the enclosure providing an attachment force on the frame within the enclosure as taught by Tadepalli since such eliminates the need for separate fasteners.

Pertinent Prior Art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Shibuya et al. (JP 07-320478), which teaches a disk drive (FIG. 5, for instance) comprising an airstream stripper (22) downstream from an actuator (between 7 and 8).

Allowable Subject Matter

13. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

14. Applicant's arguments filed 31 January 2005 have been fully considered but they are not persuasive.

With respect to the rejections of claims 20-23 using each of Westwood and Hashizume, the applicant argues that the claimed means invokes "35 U.S.C. § 112, sixth paragraph" and therefore must be construed as "the corresponding structure disclosed in the specification." This argument, however, is not found to be persuasive as the claimed means does not invoke 35 U.S.C. § 112, sixth paragraph, since it is modified by sufficient structure (i.e., "airstream stripper vane" and "shroud", for instance) for achieving the specified function. Assuming arguendo, however, that the claimed means does invoke 35 U.S.C. § 112, sixth paragraph, each means of Westwood and Hashizume is still at least an equivalent structure to the claimed means since each performs the identical function specified in the claim in substantially the same way, produces substantially the same results as the corresponding element disclosed in the specification, and is not excluded by any explicit definition provided in the specification for an equivalent.

With respect to the rejection using Hashizume in view of Izumi, the applicant argues that there is no teaching that "a shroud defines a perimeter surface 158 substantially transverse to the data storage disc outer edge and intersecting the airstream stripper." This argument, however, is not found to be persuasive as Hashizume teaches a shroud (as shown in FIG. 3B, for instance) defining a perimeter surface substantially transverse to a data storage disc (3) outer edge and intersecting a airstream stripper (6) (as shown in FIG. 1A, for instance).

15. Applicant's arguments with respect to claims 1-4, 8-14, 19, and 24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Craig A. Renner
Primary Examiner
Art Unit 2652

CAR